RYERSON UNIVERSITY

Monitoring of "Flushables" in Urban Wastewater Systems

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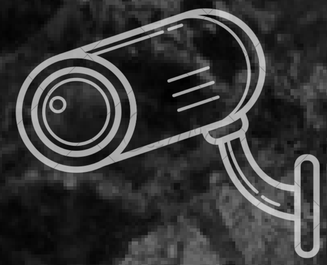
Research Objective To detect and track gross solids in sewer systems to identify point and/or non-point sources of pollution



What are "Flushables" and Why are they a Problem?

"Flushables" are consumer products that have misleadingly been advertised as safe to flush down the toilet, for a number of years. Because there are many commonalities between so-called "flushables" and their counterparts, it is often deemed acceptable by the public to inadequately dispose of similar products in the toilet, as well. In recent years, sewer operators have reported a growing number of problems caused by the mass influx of these products in drainlines as well as their appearance in combined sewer overflows (CSOs).

How Can "Flushables" be Detected?

An artificial intelligence-based monitoring system is being developed for deployment in sewer maintenance holes, CSOs, and more.

What has Current Data Shown?

$250M

"Flushable" wipes add at-least $250 million dollars in additional repairs and maintenance each year to municipal sewer systems in Canada (Leno, 2017)

10,000

The City of Toronto, where Ryerson is located, logged almost 10,000 calls a year from 2010 to 2018 from residences with "sewer service line-blocks" (Kart, 2019).

1,516

combined sewer overflow locations existed across 130 municipal systems, and 168.8M cubic metres of untreated sewage was released from CSOs into the water (Tides, 2019).

What are the Next Steps?

Track Reported CSOs

Tracking reported CSOs (as required by Wastewater Systems Effluent Regulations) to monitor and identify wastewater discharges

Communicate

Discuss updated regulations and standards with manufacturers and their associations (i.e. INDA), system operators, retailers, and public

Did you know? 2,302 people in Canada took action to demand an inquiry into misleading labels on 'flushable' wipes (Rabson, 2019).

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FOR MORE INFORMATION, PLEASE VISIT RYERSON.CA/WATER OR CONTACT ANUM AT A11KHAN@RYERSON.CA

References

Kart, J. (2019). Study Results: Dispose of Your 'Flushable' Wipes in the Garbage. Forbes.

Leno, J. (2017). International Wastewater Industry Statement on Flushable/Non-flushable Products. MESUG.

Rabson, M. (2019). Claims made by 'flushable' wipes maker investigated by Canada's Competition Bureau. The Globe and Mail Canada.

Tides Canada (2019). Combined Sewer Overflow. Our Living Waters.